

NEW COMBINATIONS IN ARTEMISIA (ASTERACEAE: ANTHEMIDEAE)

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ABSTRACT

Two combinations are proposed: *Artemisia arbuscula* subsp. *longiloba* (Osterhout) Shultz and *Artemisia globularia* subsp. *lutea* (Hultén) Shultz. *Artemisia globularia* subsp. *lutea* is lectotypified.

RESUMEN

Se proponen dos combinaciones (*Artemisia arbuscula* subsp. *longiloba* y *Artemisia globularia* subsp. *lutea*) y se lectotipifica *Artemisia globularia* subsp. *lutea*.

Taxa for which new combinations are here proposed are included in the forthcoming treatment of *Artemisia* in the Flora of North America North of Mexico (Shultz 2005). Both combinations already exist at varietal rank but they are made here at subspecific rank for better consistency with traditional usage in the genus (e.g., Shultz 1983, 1987) and with the FNA treatment.

***Artemisia arbuscula* Nutt. subsp. *longiloba* (Osterhout) Shultz, comb. nov.**

BASIONYM: *Artemisia spiciformis* Osterhout var. *longiloba* Osterhout, *Muhlenbergia* 4:69. 1908.
Artemisia longiloba (Osterhout) Beetle, *Rhodora* 61:84. 1959. *Artemisia arbuscula* var. *longiloba* (Osterhout) Dorn, *Vasc. Pl. Wyoming* 295. 1988. *Seriphidium arbusculum* (Nutt.) W.A. Weber subsp. *longilobum* (Osterhout) W.A. Weber, *Phytologia* 55:7. 1984. TYPE: U.S.A. COLORADO. Grand Co.: Sulphur Springs, Osterhout 3592 (HOLOTYPE: GHI).

Artemisia arbuscula is one of the more perplexing species in *Artemisia* subg. *Tridentatae*. Anatomic and morphologic characteristics (leaf phenology and size of heads) suggest multiple hybrid origins and different parental taxa for the subspecies (Shultz 1987). The phenology of leaves on flowering plants in an otherwise evergreen species suggests a hybrid origin involving species of the *A. tridentata* and *A. cana* lineages. In most instances, populations of *A. arbuscula* appear to be stable and self-reproducing from fully fertile seeds.

Artemisia arbuscula occurs throughout western North America, primarily as isolated populations in California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming. *Artemisia arbuscula* subsp. *longiloba* differs from other subspecies of *A. arbuscula* by its distinctive leaf lobing and early blooming time. It is the only member of the *Tridentatae* complex to begin flowering as soon as snow melts in early spring and it is ecologically distinguished from other subspecies by its occurrence at lower elevations, in fine-

grained clay soils. Morphological characteristics that separate subsp. *longiloba* from subsp. *arbuscula* are its smaller heads (2–3 mm diam. as opposed to 3–4.5 mm); subsp. *longiloba* is separated from subsp. *thermopola* by its shallowly lobed leaves (less than 1/2 their lengths) as opposed to deeply cleft leaves (more than 1/2 their lengths).

I proposed the taxonomic status adopted here in my doctoral dissertation (Shultz 1983). Osterhout first recognized the 'longiloba' morphological form; he considered it a variant of *Artemisia spiciformis*, a species that also appears to be of hybrid origin. Because *A. arbuscula* subsp. *longiloba* occurs sporadically in the Intermountain west and exhibits a broad range of morphological variation, I have hesitated to formalize its status. Twenty years of additional field work have helped to confirm my belief that this taxon should be recognized but with the caveat that it may be derived from different taxonomic lineages (at subspecific rank) in different parts of its range. The taxon described as *A. arbuscula* subsp. *longicaulis* A.H. Winward & E.D. McArthur (1995) may be a polyploid derivative of the *Artemisia arbuscula* complex. This complex continues to present an interesting puzzle that in all likelihood represents a pattern of reticulate evolution.

Artemisia globularia Chamisso ex Besser subsp. **lutea** (Hultén) Shultz, comb.

NOV. BASIONYM: *Artemisia globularia* var. *lutea* Hultén, Acta Univ. Lund 2, 46:1567 1950. *Artemisia globularia* f. *lutea* (Hultén) B. Boivin, Naturaliste Canad. 94:632 1967. TYPE: U.S.A. ALASKA: St. Matthew Island, 16 Jul 1938, J.P. Anderson 4007 (LECTOTYPE: S, here formally designated). Selected by D.F. Murray in 1981, who studied all the material available to Hultén at S. The Anderson collection is the only one of the syntypes in Hultén's herbarium and thus the only one he could have had before him at the time of writing the description.

As currently circumscribed, *Artemisia globularia* subsp. *lutea* is known only from Alaska. It is common on St. Mathew Island, infrequent on surrounding islands, and of conservation concern. The bright yellow corollas with orange glands distinguish it from subsp. *globularia*, which has reddish-black, eglandular corollas. It is unusual to have such distinguishing characteristics at the subspecies level. Elven et al. (2004) documented multiple chromosome races within *A. globularia*, suggesting need for further study to determine relationships of this taxon.

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